

**A NEW SUBSPECIES OF *CARABUS (ACOPTOLABRUS)*
CONstricticollis KRAATZ, 1886 FROM SOUTH-WEST
LIAONING, CHINA (COLEOPTERA: CARABIDAE)**

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ABSTRACT: A new *Carabus* subspecies from South-West Liaoning, China is described and figured: *Carabus (Acoptolabrus) constricticollis fei* n. ssp. Correlations between closer subspecies are given.

KEY WORDS: Coleoptera, Carabidae, *Carabus*, *Acoptolabrus*, new subspecies, Liaoning, China.

The opportunity to study several *Carabus* L. from the South-Western part of Liaoning Province, China collected by one of the Authors (J.-K. Li) permitted to find a very interesting population of *C. (Acoptolabrus) constricticollis* Kraatz, 1886. This new population appears different from all the others known forms of *C. (A.) constricticollis* and it belongs to a new subspecies.

***Carabus (Acoptolabrus) constricticollis fei* n. ssp.**
(Figs. 1-2)

Type locality: North East China, South West Liaoning Province, Liadong Peninsula, Haicheng City, Gusahanzhen, ErDaoHe, 700 m.

Type material: Holotypus ♀, locus typicus, 17/19-VI-2011, in the collection of Key Laboratory of remote sensing monitoring of geographic environment, College of Heilongjiang Province, Harbin Normal University, Harbin, China; Paratypus: 1 ♂ and 2 ♀ idem, in the collection of I. Rapuzzi.

Description

The new subspecies differs from all others known subspecies of *C. (Acoptolabrus) constricticollis* Kraatz, 1886 from Liaoning because of its very large size: 31,5 / 36,0 mm length (mandibles included), 10,0 / 11,2 mm large.

Dorsal surface metallic, very shiny: head and pronotum cupreus-red and elytra green to dark green. Primary and secondary intervals black. Antenna and palpi black. Legs, epipleurae, and underside of thorax, metallic violet, purplish-green.

The head and the neck are very long but larger than other known subspecies. Surface shiny and very faintly punctulate and rugulose. Mandibles very long and narrow, curved uniformly, longer than all other known forms. Retinacular teeth of mandibles bidentate. Labrum bilobate but less sinuate in the middle. Well developed palpi, subapical segment of labial palpi with two setae. Maxillary and

labial palpi with apical segment dilated, strongly dilated in the male. Tooth of mentum narrow and acute, shorter than lateral lobes.

Pronotum very long and narrow, the apex constricted before the neck, rounded in the middle, and constricted before the base. Hind angles well produced and divergent. The upper surface is very shiny and very faintly rugulose. Pronotum larger than others *C. constricticollis* forms with a deeper and larger basal depression, more shiny and shallow wrinkles. Its shape resembles *C. (A.) leechi* Bates, 1888 forms from the Korean Peninsula.

The body has the same characteristics as in *C. constricticollis* but less elongate, more convex, larger at the base, widened in the apical third. Intervals stronger and more convex; primary less numerous, wider spaced, and larger; secondary in form of tubercles very spaced, large half then the primaries; tertiary confused with the found grainy.

Legs very developed but stronger than *C. constricticollis*. Protarsi in male with 3 dilated segments, 4th protarsal segment without adhesive sole.

Apical lobe of aedeagus straight, more pointed and more curved (Fig. 4).

Discussion

C. (Acoptolabrus) constricticollis fei n. ssp. is well characterized from the other known subspecies according the bigger size, more ovate and convex elytra with more stronger intervals; larger pronotum, stronger head and different aedeagus apex. It seems to be the most South-Western population from Liaoning Province. Further investigations will be necessary to better understand its diffusion in the Liaodong Peninsula. This new subspecies is very interesting because in the North East China *C. (A.) constricticollis* Kraatz, 1886 seems to be very homogeneous species and all the populations belongs to the typical form; only very few population from Liaoning Province belongs to subspecies *furumielloides* Deuve, 1997 characterized by blue elytra and green pronotum but with the main characteristics as the nominative subspecies (Deuve et al., 2011). It is interesting to note that in the same area lives *C. (Acoptolabrus) schrencki kimiae* Kezuka & Imura, 1989 and *C. (A.) s. hisakai* Imura, 1990 which differs from the others known forms of *C. schrencki* for the same characteristics that we find in *C. (A.) c. fei* n. ssp.: larger size, stronger head, and very convex elytra.

Etymology

This magnificent new *Carabus* subspecies is cordially dedicated to the F.E.I.: Forum Entomologi Italiani.

Remarks

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LITERATURE CITED

Breuning, S. 1932-1937. Monographie der Gattung *Carabus* L., Troppau, E. Reitter ed.: 1610 pp., 41 fig.

Deuve, Th. 1997. Catalogue des Carabini et Cychrini de Chine. Mémoires de la Société entomologique de France, n° 1: 236 pp.

Deuve, Th. 2004. Illustrated catalogue of the genus *Carabus* of the world (Coleoptera: Carabidae). Sofia, Moscou: Pensoft éd., x + 461 pp.

Deuve, Th. & Li, J.-K. 2000. Esquisse pour la connaissance du genre *Carabus* L. en Chine du Nord-Est (Carabidae). Lambillionea, 100: 502-530.

Deuve, Th., Li, J.-K. & Zhang, X.-P. 2011. Sur quelques Carabinae du Nord-Est de la Chine (Coleoptera, Carabidae). Le Coléopteriste, 14 (1): 55-61.

Hauser, G. 1921. Die *Damaster* – *Coptolabrus* – Gruppe Der Gattung *Carabus*. Zoologische Jahrbücher. Abteilung für Systematik. Jena Verlag von Gustav Fischer. 420 pp.

Imura, Y. 1990. A new subspecies of *Damaster* (*Acoptolabrus*) *kimieae* from Liaoning Province, Northeast China. Gekkan-Mushi. 234: 10.

Kezuka & Imura, Y. 1989. The subgenus *Acoptolabrus* of the genus *Damaster*. Carabina of the world (7). Gekkan –Mushi. 218: 5.

Li, J.-K. 1992. The Coleoptera fauna of Northeast China. Jilin Province: Jilin Education Publishing House, 205 pp.

Schütze, H. & Kleinfeld, F. 2007. Die Caraben Chinas. Delta Druck + Verlag, Peks, Schwanfeld. 332 pp.

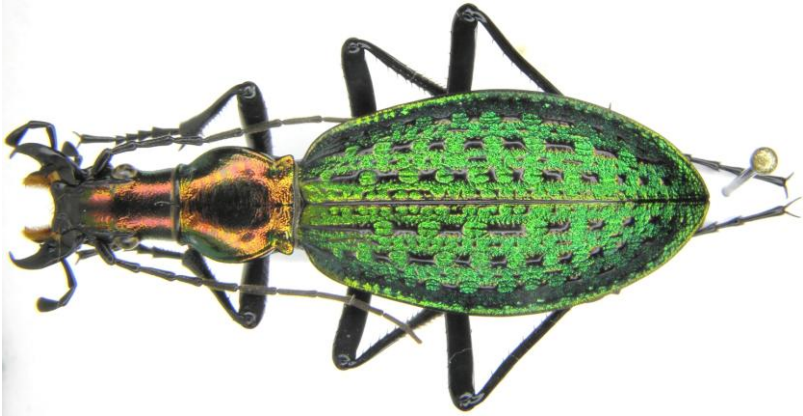


Figure 1. *C. (Acoptolabrus) constricticollis fei* n. ssp.. Holotypus Female.



Figure 2. *C. (Acoptolabrus) constricticollis fei* n. ssp.. Paratypus Male.



Figure 3. *C. (Acoptolabrus) constricticollis fei* n. ssp.. Aedeagus in frontal and lateral views.



Figure 4. Detail of apical lobes of aedeagus:
up - *C. (Acoptolabrus) constricticollis constricticollis* Kraatz, 1886,
down - *C. (Acoptolabrus) constricticollis fei* n. ssp.